

REMARKS

Initially, in the Office Action dated July 3, 2002, the Examiner has objected to claims 2-9, 11-14, 16 and 20-21 because of informalities. Further, claims 1, 2, 5-8, 10, 11 and 15-19 have been rejected under 35 USC §102(b) as being anticipated by U.S. Patent No. 5,731,737 (Cranford, Jr. et al.). In addition, claims 3, 4, 9, 12-14, 20 and 21 have been rejected under 35 USC §103(a) as being unpatentable over Cranford, Jr. et al. and further in view of U.S. Patent No. 5,550,520 (Kobayashi).

By the present response, Applicants have amended claims 2-9, 11-14, 16, 20 and 21 to further clarify the invention. Claims 1-21 remain pending in the present application.

Claim Objections

Claims 2-9, 11-14, 16 and 20-21 have been objected to because of informalities. Applicants have amended these claims to further clarify the invention and respectfully request that these objections be withdrawn.

35 USC §102 Rejections

Claims 1, 2, 5-8, 10, 11, 15-19 have been rejected under 35 USC §102(b) as being anticipated by Cranford, Jr. et al. Applicants respectfully traverse these rejections.

Cranford, Jr. et al. discloses a method and apparatus for reducing reference frequency signal and/or clock switching noise in self-tuned integrated continuous-time filters. Cranford, Jr. et al. discloses a master-slave configuration where the master is either a voltage controlled oscillator (VCO) or a filter. The components (transistors, capacitors, etc.) in the master circuit and the slave circuit are matched

to each other so that corrections applied to the master circuit are also valid for the slave circuit.

Regarding claims 1, 10, 15, 17 and 18, Applicants submit that Cranford, Jr. et al. does not disclose or suggest the limitations in the combination of each of these claims of, inter alia, reconfiguring an oscillator tuned to a desired frequency to operate as a filter with the desired frequency as the center frequency. In the present invention, there is no master-slave, there is only one circuit which is configured either as an oscillator (during tuning) or as a filter. There are no matched circuits. In contrast, Cranford, Jr. et al. discloses a master-slave configuration being either a VCO or a filter. The Examiner asserts that Cranford, Jr. et al. discloses reconfiguring an oscillator to operate as a filter with a desired frequency as the center frequency at col. 5, lines 1-22. However, this section of Cranford, Jr. et al. merely discloses details related to the VCO master 300. There is no disclosure in this section of Cranford, Jr. et al. of reconfiguring an oscillator as a filter as recited in the claims of the present application. In addition, the Examiner asserts that the limitation in the claims of the present application of configuring a filter as an oscillator comprising compensating for losses in the filter is disclosed in Cranford, Jr. et al. at col. 1, lines 25-41. However, this background portion of Cranford, Jr. et al. merely discloses the problem of a filter performing within specifications when components used in the filter have wide variances and tolerances. This does not disclose or suggest anything related to configuring a filter as an oscillator comprising compensating for losses in the filter as recited in the claims of the present application. Cranford, Jr. et al. relates to reducing noise in an integrated continuous-time filter using a master slave automatic tuning scheme and does not disclose or

suggest configuring a filter as an oscillator, tuning the oscillator to a desired frequency, or reconfiguring the oscillator to operate as the filter with the desired frequency as the center frequency as recited in the claims of the present application.

Regarding claims 2, 5-8, 11, 16 and 19, Applicants submit that these claims are dependent on one of independent claims 1, 10, 15, 17 and 18 noted previously and, therefore, are patentable at least for the same reasons noted regarding these independent claims.

Accordingly, Applicants submit that Cranford, Jr. et al. does not disclose or suggest the limitations in the combination of each of claims 1, 2, 5-8, 10, 11, and 15-19 of the present application. Applicants respectfully request that these rejections be withdrawn and that these claims be allowed.

35 USC §103 Rejections

Claims 3, 4, 9, 12, 13, 14, 20 and 21 have been rejected under 35 USC §103(a) as being unpatentable over Cranford, Jr. et al. in view of Kobayashi. Applicants respectfully traverse these rejections.

Kobayashi discloses an active tunable band-pass filter that has a negative resistance circuit for generating a tunable amount of negative resistance for a passive band-pass filter structure so as to compensate for resistive losses.

Applicants submit that claims 3, 4, 9, 12, 13, 14, 20 and 21 are dependent on one of independent claims 1, 10 and 18 discussed previously and, therefore, are patentable at least for the same reasons noted previously regarding these claims. Applicants submit that the Kobayashi reference does not overcome the substantial defects noted previously regarding Cranford, Jr. et al.

Accordingly, Applicants submit that neither Cranford, Jr. et al. nor Kobayashi, taken alone or in any proper combination, disclose, suggest or render obvious the limitations in the combination of each of claims 3, 4, 9, 12, 13, 14, 20 and 21 of the present application. Applicants respectfully request that these rejections be withdrawn and that these claims be allowed.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page is captioned **"Version with markings to show changes made."**

To the extent necessary, Applicant petitions for an extension of time under 37 CFR §1.136. Please charge any shortage in the fees due in connection with the filing of this paper, including extension of time fees and excess claim fees, to Deposit Account No. 01-2135 (referencing case No. 1076.40413X00) and please credit any excess fees to such deposit account.

Respectfully submitted,



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Version with markings to show changes made

IN THE CLAIMS

Please amend the claims as follows:

2. (Amended) [A] The method of tuning a filter according to claim 1, wherein said step of configuring said filter as an oscillator comprises compensating for losses in the filter.
3. (Amended) [A] The method of tuning a filter according to claim 1, wherein the filter comprises a bandpass filter.
4. (Amended) [A] The method of tuning a filter according to claim 1, wherein the filter comprises a notch filter.
5. (Amended) [A] The method of tuning a filter according to claim 1, wherein the step of tuning said oscillator comprises providing a tuning signal.
6. (Amended) [A] The method according to claim 5, further comprising the step of recording the tuning signal which causes said oscillator to operate at the desired frequency.
7. (Amended) [A] The method according to claim 6, wherein the step of recording the tuning signal comprises sampling and holding the tuning signal.

8. (Amended) [A] The method according to claim 7, further comprising storing the sampled signal in a register.

9. (Amended) [A] The method according to claim 1, wherein the filter circuit includes a tank circuit and the step of tuning the oscillator comprises tuning the resonant frequency of the tank.

11. (Amended) [A] The tunable filter according to claim 10, wherein the filter circuit is subject to energy losses, wherein the configuration circuit comprises a compensation circuit operable to compensate for said losses.

12. (Amended) [A] The tunable filter according to claim 11, wherein said losses are due to parasitic resistance, the compensation circuit being operable to provide a negative resistance to compensate for the parasitic resistance.

13. (Amended) [A] The tunable filter according to claim 10, wherein the filter circuit comprises a tank circuit.

14. (Amended) [A] The tunable filter according to claim 10, wherein the filter circuit includes a varactor for tuning the oscillator.

16. (Amended) [A] The tunable filter according to claim 15, further comprising tuning means for tuning the oscillator.

20. (Amended) [A] The programmable filter according to claim 18,
wherein the filter comprises a bandpass filter.

21. (Amended) [A] The programmable filter according to claim 20,
wherein the memory includes a plurality of digital words, each word
corresponding to a tuning signal which represents a desired center frequency
for the filter.